

# SEQUENCE LISTING

<110> BOMMARIUS, ANDREAS  
DRAUZ, KARLHEINZ  
VERSECK, STEFAN  
KULA, MARIA-REGINA

<120> ACETYL AMINO ACID RACEMASE FROM AMYCOLATOPSIS ORIENTALIS FOR RACEMIZING  
CARBAMOYL AMINO ACIDS

<130> 214382US0X

<150> DE 10050124.9

<151> 2000-10-11

<160> 2

<170> PatentIn version 3.1

<210> 1

<211> 1107

<212> DNA

<213> Amycolatopsis orientalis

<220>

<221> CDS

<222> (1)..(1107)

<223>

<400> 1

gtg	aaa	ctc	agc	ggt	gtg	gaa	ctg	cgc	cgg	gtc	cgg	atg	ccg	ctc	gtg	48
Val	Lys	Leu	Ser	Gly	Val	Glu	Leu	Arg	Arg	Val	Arg	Met	Pro	Leu	Val	
1				5				10						15		

gcc	ccg	ttc	cgg	acg	tcg	ttc	ggg	acg	cag	tcc	gag	cgg	gaa	ttg	ctg	96
Ala	Pro	Phe	Arg	Thr	Ser	Phe	Gly	Thr	Gln	Ser	Glu	Arg	Glu	Leu	Leu	
			20				25						30			

ctg	gtc	cgc	gcg	gtg	acc	ccg	gcg	ggc	gag	ggc	tgg	ggc	gaa	tgt	gtc	144
Leu	Val	Arg	Ala	Val	Thr	Pro	Ala	Gly	Glu	Gly	Trp	Gly	Glu	Cys	Val	
		35				40					45					

gcg	atg	gag	gcg	ccg	ctc	tac	tcg	tcg	gag	tac	aac	gac	gcc	gcc	gag	192
Ala	Met	Glu	Ala	Pro	Leu	Tyr	Ser	Ser	Glu	Tyr	Asn	Asp	Ala	Ala	Glu	
	50					55				60						

cac	gtg	ctg	cgg	aac	cat	ctg	atc	ccc	gca	ctg	ctg	gcg	gcc	gag	gac	240
His	Val	Leu	Arg	Asn	His	Leu	Ile	Pro	Ala	Leu	Leu	Ala	Ala	Glu	Asp	
65					70				75					80		

gtg	acc	gcg	cac	aag	gtg	acg	ccg	ttg	ctg	gcg	aag	ttc	aag	ggc	cac	288
Val	Thr	Ala	His	Lys	Val	Thr	Pro	Leu	Leu	Ala	Lys	Phe	Lys	Gly	His	
				85				90						95		

cgg	atg	gcg	aag	ggc	gcg	ctg	gag	atg	gcg	gtc	ctc	gac	gcc	gaa	ctc	336
Arg	Met	Ala	Lys	Gly	Ala	Leu	Glu	Met	Ala	Val	Leu	Asp	Ala	Glu	Leu	

100 105 110

cg	gc	cat	gac	cg	tcc	ttc	gc	gcc	gag	ctg	ggg	tcc	act	cg	gac	384
Arg	Ala	His	Asp	Arg	Ser	Phe	Ala	Ala	Glu	Leu	Gly	Ser	Thr	Arg	Asp	
	115						120					125				
tcc	gtg	gcc	tgc	ggg	gtc	tcg	gtc	ggg	atc	atg	gac	tcg	atc	ccg	cac	432
Ser	Val	Ala	Cys	Gly	Val	Ser	Val	Gly	Ile	Met	Asp	Ser	Ile	Pro	His	
	130					135					140					
ctg	ctc	gac	gtc	gtc	ggc	ggc	tac	ctc	gac	gag	ggc	tac	gtc	cg	atc	480
Leu	Leu	Asp	Val	Val	Gly	Gly	Tyr	Leu	Asp	Glu	Gly	Tyr	Val	Arg	Ile	
145					150					155					160	
aag	ctg	aag	atc	gag	ccc	ggc	tgg	gac	gtc	gag	ccg	gtc	cg	cag	gtg	528
Lys	Leu	Lys	Ile	Glu	Pro	Gly	Trp	Asp	Val	Glu	Pro	Val	Arg	Gln	Val	
				165					170					175		
cgt	gag	cg	ttc	ggt	gac	gac	gtg	ctg	ctg	cag	gtc	gac	gc	aac	acc	576
Arg	Glu	Arg	Phe	Gly	Asp	Asp	Val	Leu	Leu	Gln	Val	Asp	Ala	Asn	Thr	
			180					185					190			
gc	tac	acg	ctg	ggc	gac	gc	ccc	ctg	ctg	tcc	cg	ctc	gac	ccg	ttc	624
Ala	Tyr	Thr	Leu	Gly	Asp	Ala	Pro	Leu	Leu	Ser	Arg	Leu	Asp	Pro	Phe	
	195						200					205				
gac	ctg	ctg	ctg	atc	gag	cag	ccg	ctc	gaa	gaa	gag	gac	gtg	ctc	ggc	672
Asp	Leu	Leu	Leu	Ile	Glu	Gln	Pro	Leu	Glu	Glu	Glu	Asp	Val	Leu	Gly	
	210				215						220					
cac	gcc	gag	ctg	gcc	aag	cg	atc	cg	acg	ccg	atc	tgc	ctc	gac	gag	720
His	Ala	Glu	Leu	Ala	Lys	Arg	Ile	Arg	Thr	Pro	Ile	Cys	Leu	Asp	Glu	
225					230					235					240	
tc	atc	gtc	tc	gcc	aag	gcc	gcc	gc	gac	gc	atc	aag	ctc	ggc	gcc	768
Ser	Ile	Val	Ser	Ala	Lys	Ala	Ala	Ala	Asp	Ala	Ile	Lys	Leu	Gly	Ala	
				245					250					255		
tgc	cag	atc	gtc	aac	atc	aaa	ccg	ggc	cg	gtc	ggc	gga	tac	ctc	gaa	816
Cys	Gln	Ile	Val	Asn	Ile	Lys	Pro	Gly	Arg	Val	Gly	Gly	Tyr	Leu	Glu	
			260					265					270			
gcc	cg	cg	gtg	cac	gac	gtc	tgc	gc	gca	cac	ggg	atc	gc	gtg	tgg	864
Ala	Arg	Arg	Val	His	Asp	Val	Cys	Ala	Ala	His	Gly	Ile	Ala	Val	Trp	
	275						280					285				
tgc	ggc	ggg	atg	atc	gag	acc	ggg	ctc	ggc	cg	gc	gcc	aac	gtc	gca	912
Cys	Gly	Gly	Met	Ile	Glu	Thr	Gly	Leu	Gly	Arg	Ala	Ala	Ala	Asn	Val	
	290					295					300					
ctg	gcc	tc	ctg	ccc	ggc	ttc	acg	ctg	ccg	ggg	gac	acc	tc	gc	tcc	960
Leu	Ala	Ser	Leu	Pro	Gly	Phe	Thr	Leu	Pro	Gly	Asp	Thr	Ser	Ala	Ser	
305					310					315					320	
ggc	cg	ttc	tat	cg	acc	gac	atc	acc	gag	ccg	ttc	gtg	ctg	gac	gcc	1008
Gly	Arg	Phe	Tyr	Arg	Thr	Asp	Ile	Thr	Glu	Pro	Phe	Val	Leu	Asp	Ala	
				325					330					335		



